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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,671	07/23/2003	Michiei Nakamura	240706US0	6689

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EXAMINER	
CHU, HELEN OK	
ART UNIT	**PAPER NUMBER**
1795	

NOTIFICATION DATE	DELIVERY MODE
03/28/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/624,671	NAKAMURA ET AL.	
	Examiner	Art Unit	
	HELEN O. CHU	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,8-15,22 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-5,8-15,22 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's Arguments/Remarks were received on January 4, 2008. Claim 1 has been amended.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action.

Claim Rejections - 35 USC § 112

3. The rejections under 35 U.S.C 112, first paragraph on claims 1, 3-5, 8-15, 22, 23 are withdrawn because claim 1 has been amended.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the recitation," polymer A is said (co)polymer A-1 and said (co) polymer comprises at least one epoxy group is a homopolymer of glycidal methacrylate or a copolymer of glycidal methacrylate and another one or more monomer" which is states that the polymer A is made of (co)polymer of A-1 and the (co)polymer A-1 has in it's structure an epoxy group. However, the Arguments/Remarks submitted by the Applicants dated January 4, 2008 admits that claim 4 is not the case. The final product, for example, cyclocarbonatopropyl methacrylate has no epoxy structure in polymer A. Therefore, the claim will be interpreted as such. Appropriate corrections are required.

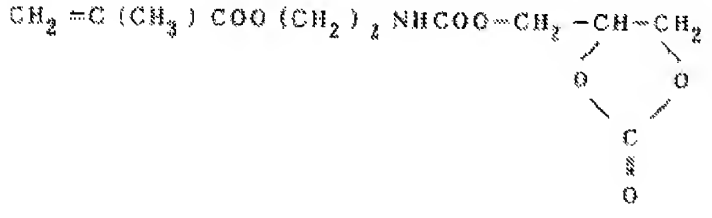
Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3-5, 8-11, 14, 15, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi et al. (JP 08-295713).

The Takeuchi et al. reference discloses an electrolyte film (Paragraph 42) for batteries with a molecular weight of 50,000 (Paragraph 42) and a chemical formula of:



Wherein the polymer can be linear (un-crosslinked) and/or branched (crosslinked; Abstract), lithium perchlorate (Paragraph 47), a plasticizer of diethyl carbonate (Applicant's organic solvent).

8.

Claim Rejections - 35 USC § 102/103

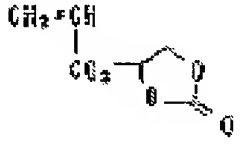
9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1, 3-5, 8, 9 and 14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yasunami et al. (JP 03-177410).

In regards to claim 1, 3-5, 8, 9, 11 and 14, 15, the Yasunami et al. reference discloses an electrolyte for batteries with polymerization with at least the chemical structure which is uncrosslinked:



and lithium perchlorate to form a matrix (Applicant's film). The Yasunami et al. reference does not specification state the polymer having an average molecular weight of 10,000 to 5,000,000 however, polymers are considered macromolecules with such high molecular weight.

Claim Rejections - 35 USC § 103

11. The rejections under 35 U.S.C 103(a), as unpatentable over unpatentable over Yoshida in view of Figovsky, on claims 1-5, 8-15, 22-26 are withdrawn because Applicants have amended the claims.

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

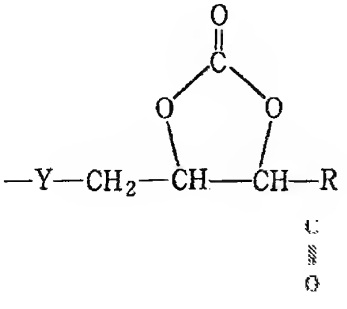
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 1, 3-5, 8-15, 22, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US Patent 6,949,317) in view of Takeuchi et al. (JP 08-295713).

In regards to claims 1, 3-5, 11, 12, 14, 15, the Yoshida reference teaches a polymer gel (wet) electrolyte includes an electrolyte solution (Abstract) composed of a polyurethane network (Column 9, Lines 60-65), however, does not disclose that the polyurethane compose a (co)polymer made of a component with the following formula with Y = CO'O:

The Takeuchi referen k made with a

$CH_2=C(CH_3)COO$



(co)polymer of formula (1) where R is a hydrogen atom and Y CO'O. The Takeuchi reference further discloses the polyurethane give membranes high strengths, improved room-temperature and low-temperature conductivity and processability (Abstract). Therefore, it would have been obvious to one of ordinary skill to incorporate the polyurethane with structures as disclosed by Takeuchi to the Yoshida secondary battery that requires a polyurethane for relative elongated life of the battery. Furthermore, the Yoshida et al. reference discloses polyurethanes that have a molecular weight to be 1,000-50,000. It is the Examiner's position that the amounts in question are so close that it is prima facie obvious that one skilled in the art would have expected them to have the same properties *Titanium Metals Corp. v. Banner, 227 USPQ 773*

In regards to claims 8, 9 and 10, the Yoshida et al. reference teaches electrolyte ammonium salts (e.g. lithium perchlorate) (Column 7, Lines 51-56) in a methyl ethyl carbonate solvent (Column 9, Line 11).

In regards to claim 13, the Yoshida et al. reference discloses the electrolyte being retained on a separator made of nonwoven fabrics (Column 30, Lines 1-12)

In regard to claims 22 and 23, the Yoshida et al. reference discloses semi-interpenetrating network structures which are a combination of crosslinked and non-crosslinked polymers.

It is noted that claims 1, 3-5, 22, 23 are product-by-process claims. Absent a showing to the contrary, it is the examiner's position that the article of the applied prior art is identical to the claimed article. Even though product-by-process claims are limited

by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). Since, the final product structure of Yoshida et al. in view of Figovsky is the same of the Applicant's, Applicant's process is not given patentable weight in this claim.

Response to Arguments

14. Applicant's arguments with respect to claims 1, 3-5, 8-15, 22 and 23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELEN O. CHU whose telephone number is (571)272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOC

/Raymond Alejandro/

Primary Examiner, Art Unit 1795